

WHAT IS CLAIMED IS:

1. An optical proximity spatial transmission system for transmitting information data optically through a local space, the system comprising:

a first communication device having a light emitter and/or photodetector installed thereon;

a second communication device having installed thereon a photodetector which detects light from the light emitter of the first communication device and/or a light emitter which emits light toward the photodetector of the first communication device; and

an anti-scattering lens disposed behind the light emitter and/or in front of the photodetector of the first communication device and/or second communication device;

the first communication device being rotatable around the axis thereof aligned with the optical axis of light outgoing from the light emitter and/or light incident upon the photodetector while the second communication device with the photodetector and/or light emitter is fixed on the optical axis.

2. The optical proximity spatial transmission system as set forth in claim 1, wherein the spot diameter, of light emitted from the light emitter toward the photodetector, at the light emitter is larger than the oscillation in the direction of an off-axis deviation caused by the rotation.

3. The optical proximity spatial transmission system as set forth in claim 1, wherein the spot diameter, of light emitted from the light emitter toward the

photodetector, at the light emitter is larger than that at the photodetector.

4. The optical proximity spatial transmission system as set forth in claim 1, wherein the information data is transmitted in a base band domain.

5. The optical proximity spatial transmission system as set forth in claim 1, wherein the transfer rate of the information data is 200 Mbps or more.

6. The optical proximity spatial transmission system as set forth in claim 1, wherein the light emitter is a laser diode.

7. The optical proximity spatial transmission system as set forth in claim 1, wherein the first communication device is a rotating-side circuit board installed on a rotating drum of a rotating drum head unit while the second communication device is a stationary-side circuit board connected to a stationary drum of the rotating drum head unit.

8. The optical proximity spatial transmission system as set forth in claim 1, wherein:

the light emitter and/or photodetector on the rotating-side circuit board is connected to the photodetector and/or light emitter on the stationary-side circuit board by an optical fiber; and

an anti-scattering lens is provided between the light emitter and/or photodetector on the rotating- or stationary-side circuit board and the optical fiber.

9. The optical proximity spatial transmission system as set forth in claim 7, wherein optical spatial transmission is done in a space for rotation bearing of the

rotating drum, formed in the rotating and stationary drums of the rotating drum head unit.